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ORIGINAL COMMUNICATIONS.

EMPYEMA.

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In the course of four years, it has been my fortune to have under my care four cases of Empyema, all of which have perfectly recovered, and the persons are now enjoying as good health as was ever allotted to either, previous to having the disease.

Therefore, without going into any general treatise on the disease, the theory of which is fully ventillated in our standard works, I propose, for the timid country practitioner, to give a brief history of three of the cases and their treatment. This, I do under the firm conviction that very many go down to an untimely grave from either ignorance or timidity, under the misnomer of Phthisis, Chronic Hepatitis, Hydrothorax, Cardiac disease, &c., &c. Now if this class of good men could be aroused to a just sense of their duty, and the dread of an operation be lessened in their minds, very many valuable lives might be annually saved; the profession elevated, and physicians respected in country practice, according to their real merit.

The first case to which my attention was called was in the family of David Watson, a few miles from this place. I was attending Mrs. Watson in case of acute rheumatism, March 1st, 1860, at the time, and she was not getting along just as well as I could have desired, so that the family had become quite impatient. During this period of impatience, her son Edwin had an attack of what the doctor (an eclectic) called, an Intermittent Billious Fever. The young man was 21 years of age, and, on account of the slow recovery of his mother, exercised his undoubted prerogative of employing whomsoever he pleased, and consequently sent for another physician to attend him. I supposed at the time that the Dr. made his diagnosis, as he did, from the boy having had a chill, no attention having been paid to the physical signs. When I arrived the next day on my usual visit, I discovered another patient in the opposite corner of the same room. On inquiry, I found that another physician had been sent for. I asked, what the Dr. had called the disease: How the boy was attacked; how he had been since held, and many other questions partly from curiosity, and partly that I might observe more closely the progress of the disease. I was asked by his father to examine him and give my opinion for his own satisfaction, which I did. I found that he had been attacked with Pleuro-pneumonia of the middle lobe of the right lung, and so stated the fact, and in connection the danger his son was in, and that, if he did not wish to employ me, he had better send for another physician. He did not, however, heed the advice, and therefore, the eclectic and I each attended our own patient. I, however, kept a steady watch over the eclectic's patient as well as my own; the Dr. assuring the family from day to day that Edwin was better which I never contradicted in the least, but with my closest scrutiny "*I could not see it.*" In the course of two weeks I discharged my patient as convalescent, and left my eclectic friend "*alone in his glory*"—and in my opinion, exceedingly well pleased at getting rid of my presence. Still harping on the speedy recovery of his charge.

Edwin was taken sick about the first of March, 1860, and after the middle of that month I did not see him, till near the middle of April. I found him then, the next day after an operation had been performed by Dr. Wilson of Washington. The Dr. on his return, called upon me, by consent of the family, to take charge of the patient as the distance was too great for him to pay that attention to the case, as necessity required. He informed me at the same time that he had drawn off seven pints of puss. The operation of paracentesis had been performed between the 5th and 6th ribs and back of the nipple. Very much emaciated, Hectic fever, Colliquiative sweats, and a persistent diarrhœa. I found it difficult to draw the puss from the opening made, I therefore took a common female silver catheter to a silver-smith, had the end cut off, flattened for two inches and the end closed and rounded nicely and an opening made on one of the flat sides, the diameter of which was equal to that of the instrument. This I could slide in between the ribs very easily, producing but little pain and the pus would pass freely through it so that I had little difficulty in emptying the chest, I put him on Mur. Tinct. of Iron, Alum and Quinine, and ordered him rich animal broths, and if he wished it broiled beef or any kind of game.

Notwithstanding this I found the secretion of pus rather on the increase than otherwise and secreted in large quantities, so that my patient was fast succombing to this enormous drain upon the system. I kept a tent in the orifice, and drew off the pus every day that I might take note of the amount. Many days I would take a pint, others not more than half pint, always rinsing out the cavity with warm water by means of a gum cather which I would introduce to the botton of the cavity and inject through the open end with a small pointed glass syringe. Finding that some measure must be adopted to put a stop to this discharge, I determined to use a solution of Iodine after each rinsing with warm water. This I made of the following strength: ℞ Pot. Iod. gr. x, Tinct. Iod. ʒ ij, Aqua ʒ iv. This I would again draw off and introduce the

tent. In the course of a week I found that the puss was materially diminished. I then added one more drachm of the tincture to the solution, and kept up the process for another week, at the end of which, seeing no evil consequences arise from its use, but rather, a slow, but steady improvement; I determined to only use the solution of Iodine every other day, and then only two ounces which I left remaining in the cavity; every day however I kept up the evacuating and rinsing processes. At the end of a few weeks the progress of the cure began to be very manifest in the lessening of the size of the cavity, either from adhesions or the resumption of the lungs of their normal functions by the permeability of the heretofore closed air cells, or perhaps both. I now lessened the strength of the solution and also its quantity using only one ounce and lengthened the number of days between its use. His appetite continued to improve; his strength and flesh increased, and when I could introduce but half an ounce of liquid into the cavity I closed the orifice; the wound healed kindly, and on the 15th day of August, 1860, I discharged my patient as cured and had the satisfaction of seeing him walking the streets in a short time without the assistance of a cane. The cavity, I have no doubt, closed by granulation of the two pleural surfaces and the chest is very little contracted, but the ribs do not move so freely in respiration as on the left side. At this time, four years since his recovery, there is little or no difference in the resonance on percussion of the two sides, and the respiratory murmur seems entirely healthy; and for the last three years he has worked steadily on a farm.

Case 2—Was a soldier belonging to one of the Indiana regiments. I do not recollect his name—I found him in one of the wards of the post hospital, at Smithland Ky., on the 2d of March, when I was put in charge. He told me that he had been taken two months previously and that he was at once sent to hospital. I found by reference to the hospital register that his disease had been diagnosed Pleuro-Pneumo-

nia of right side. On measurement found that side two inches larger than the left; little or no movement of the ribs of that side during respiration, which was much hurried. Distinct bronchial, but no distinguishable vessicular respiration; flatness on percuesion two inches above the nipple from spine to sternum and down to the base of the lung; frequent, small, soft pulse; hectic fever; colliquitive sweats; persistent diarrhœa and œdema of the feet and legs. On the 5th I opened the chest with a common bistory between the 5th and 6th ribs below and behind the nipple, and drew off two pints or more of thin purulent matter of a greenish yellow color. As in the former case I washed the cavity with warm water, but this time I lost no time in injecting the cavity with a solution of Iodine, in a similar manner as in Case 1. Every day for several days I evacuated the cavity by simply removing the tent and received from one to two gills of purulent matter each time. Finding the secretion of pus was not diminishing as fast as I thought it ought, on every alternate day I used instead of the solution of Iodine, a solution of Sulph. Zinc gr. v to the ounce of water to rinse out the cavity, and on the intermediate day I used the solution of Iodine leaving two ounces in the cavity. By the last of March very little pus escaped and the cavity was nearly closed; and as soon as I could hear tolerably distinctly the respiratory murmur, I closed the orifice which in a few days healed kindly, and my patient was able to sit up. At this time my hospital was broken up, and my patient removed to Paducah, Ky., where I lost sight of him till during the siege of Vicksburg, over fifteen months, where he found my regiment, and looked me up. He looked stout and rugged and told me that he had been on during the last six months, and had participated in all the battles previous to our investment and during the siege of that place. This man's constitutional and general treatment was substantially the same, as case 1. His recovery was more speedy and his health equally as good. One reason, probably, of his more speedy recovery was, that the compres-

sion of his lung was not so great and the Pneumonia had probably, a more effectual treatment.

Case 3.—Geo. W. Fawser, aged 13 years, was attacked February 15th, 1864 with Pleuro-pneumonia. On the 18th as I was passing the house, his father called me in; I represented to the parents the facts in the case, and made the usual prescription in such cases, and told them that the boy should have regular medical attendance, and that if he did not get it the consequences might be serious. The parents however thought otherwise and paid me for the call, telling me at the same time that if the boy did not soon begin to recover, they would send for me. On the 26th I was passing, and again called in and found that there was already effusion of water or pus in the left pleural cavity there being dullness on percussion and bronchial respiration, with absence of the respiratory murmer. I directed Hydrarg. Sub. Mur. and Pulv. Scilla, every four hours and after six powders had been taken senna and salts to produce free purgation. After this a large blister was to be applied all over the left chest. They again paid me for my call and said they would let me know from time to time how he was doing.

March 1st, the father called on me for a prescription and said his son was very much improved and that if he now had something to brace him up, he thought his son would soon recover. I thought very differently however, and so informed him of my doubts in the case. During the months of March and April I was called on, at my office, to prescribe several times for the boy, the father reporting him from time to time slowly improving. On the 7th of May I was called to see him. I found the child bolstered up in a chair looking almost bloodless, much emaciated, continued diarrhœa, night sweats, hectic fever, with respiration as hurried as a church mouse, on a hot day, and unable to walk across the floor. I stripped him, and it required no measurement, or other examination to diagnose the difficulty, the left breast being very much larger than the right; the heart was beating on the right side so that

the right lung was also suffering from the enormous quantity of fluid accumulated in the left. I had no doubt from all the circumstances, that it was pus, and that the boy's days were very few without immediate relief, and so informed the parents. I explained to them what I must do, with their consent, to which they reluctantly agreed. On the 8th day of May I introduced an exploring trocar and canula between the fifth and sixth ribs, directly below the nipple, to ascertain whether I would certainly get pus or serum, that I could tell with a certainty about the proper size of the orifice that I must make for the evacuation of the contents of the chest. While the canula was still in, I passed a common bistory immediately under the instrument into the cavity and drew off at once through my flattened silver canula, that I used in the first place, three and a half pints of thin virulent matter having a greenish tinge. I then introduced a small gum catheter and rinsed the cavity with warm water, after which I at once injected it with the solution of Iodine, drew it off and introduced a tent which I fastened down by means of adhesive strips to prevent the introduction of air into the cavity. On the 9th I removed the tent and drew off half a pint of pus, and repeated the rinsing and injection of Iodine in the cavity as the day before, and so continued the same process for near one week. At the end of this time finding that the quantity of pus was not materially diminishing from day to day, as I could have desired, I determined to use the solution of Sulph Zinc., as in case two, on every alternate day; and on the days that I used the solution of Iodine, after rinsing with warm water, I simply introduced two or three ounces of the solution through a gum catheter and let it remain in the cavity. This I followed up for a couple of weeks, the discharge diminishing slowly and steadily. In the mean time I had taught the father to attend to the operation himself, so that I only visited him once per week leaving directions for the cavity to be evacuated every day, and washed out as usual, and the solution of Iodine to be used once in three or four

days. The capacity of the cavity began to be lessened, and grew smaller and smaller till the 1st day of Aug. 1864. I closed the orifice and it speedily healed. I gave him, from the commencement, Opium Quinine, and Mur. Tinct. of Iron, and compelled him to take animal broths as a common drink. Three times a day he was allowed a roast potato, or a baked apple, and sometimes a little bread. Under this treatment the boy rapidly gained his strength. His chest is very little deformed, and now at this time he is hale and hearty and works steadily on the farm, making no complaint of any uneasiness about the chest.

Case 4—Would simply be a rehash of what I have before said in the preceding cases, and there being nothing particular in the case, it would be useless to report it in this place.

The only noticeable differences in the treatment of the foregoing cases, from that usually pursued when an operation has to be resorted to, is the more frequent evacuation of the cavity of its contents, giving the lung a better chance to recover from the pressure in the air cells that the quantity of pus must necessarily produce, preventing a free admission of air as well as blood, thereby interfering with the nutrition of the lung as well as the oxydation of the blood. From what I have observed in these cases, it is also my opinion that the admission of air into the pleural cavity is not attended with such evil consequences as we have heretofore been led to believe; the contact of the air with the puss being the principal evil, rendering putrifaction more speedy.

From my little experience in these cases I would not at all hesitate to introduce this solution of Iodine into the pleural cavity in case of Hydrothorax, and would expect by so doing, to change the condition of the secreting surface so as not only to lessen the amount of fluid secreted, but also to increase the power of absorption, thus balancing the two functions by restoring their equilibrium, and consequently establishing a healthy action.

CLINICAL LECTURES ON DISEASES OF THE EYE.

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THE CRYSTALLINE LENS.

GENTLEMEN:

The crystalline lens is double convex in form, more convex posteriorly than anteriorly, of perfect transparency and great elasticity. It is about four lines in diameter, and varies in different individuals from one and a half to two and a quarter lines in thickness at its antero-posteri or axis.

The lens is situated behind the iris, its axis nearly coinciding with a line drawn through the centre of the cornea and of the globe itself. The pupillary edge of the iris rests in contact with its anterior convex surface; but the periphery of the iris is slightly separated from the lens. The space thus formed is termed by some authors the posterior chamber Other writers apply the term posterior chamber to the portion of the eye, posterior to the lens; the anterior chamber being the space occupied by the aqueous humor.

The posterior surface of the lens is embeded in a cup-shaped depression in the vitreous humor, and adheres slightly to the delicate hyaloid membrane, which surrounds this humor and which is firmly united with the Zonula of Zinn near the anterior border of the retina. As different authorities vary somewhat in their description of the zonula, and as the description in my last lecture may appear somewhat obscure, I will recall your attention to the subject.

At the ora serrata the retina loses its nervous structure and passes forward to the ciliary processes as a delicate almost structureless membrane. The hyaloid is so intimately united with this membrane, that it is difficult with the highest power of the microscope to trace each layer separately.

This membrane subdivides into two layers,—the true zonula passing on to the anterior part of the capsule of the lens—and the posterior layer continuing forward as the hyaloid, to be attached to the posterior part of the capsule of the lens. The triangular space between these two lamina and the periphory of the lens is called the canal of Petit.

The lens, although held quite firmly in position by these attachments, may suffer considerable displacement forwards without injury. With certain incised or punctured wounds of the cornea, the aqueous humor may be discharged, and the iris and lens pressed forward in contact with the cornea. As the interior chamber becomes refilled they often recede to their normal position uninjured.

The relative position of the cornea, iris and lens is worthy of especial consideration. You will recollect that the cornea is about six lines in diameter, the iris somewhat more, its periphery extending slightly beyond that of the cornea, and that the diameter of the lens is about four lines. It will thus appear evident to you how an instrument, a cataract knife for instance, can be introduced into the eye a little posterior to the union of the cornea and sclerotic in such a way as to open the anterior chamber at its periphery, evacuate the aqueous humor and divide the ciliary processes, without injury to the lens. This is done in Hancock's operation to which I have already called your attention.

The lens is composed of two distinct portions, the capsule and its enclosed lenticular substance. The capsule is a perfectly transparent membrane, almost without a trace of cell structure. The anterior half is quite firm, offering a perceptible resistance when pressed by the point of an instrument. The posterior half is less firm. The lenticular portion is composed of a hard kernel surrounded by a soft cortical substance. The general structure of the lens may be best studied by first boiling it a few minutes in water. It will then be found that it is quite complex in structure, consisting of a large number of concentric layers which are composed of minute

fibres. These fibres are six-sided, and arranged as represented in the plates before you. The arrangement of these layers and fibres is the same in the soft cortical substance and in the hard central kernel. The lens of fish and the lower animals after boiling may be studied with advantage, when one from the human eye is not at hand.

No nerves or vessels have been discovered in any portion of the lens. Nutrition is maintained by direct transfusion from the surrounding tissues, especially the iris and the choroid. Serious and persistent diseases of either of these organs are very liable to result in disturbed nutrition of the lens with more or less opacity. Molecular change apparently occurs with considerable rapidity, since slight punctures of the capsule may heal in a very short time, with scarcely a trace of opacity. Exudations from the iris in inflammation become very speedily united with the anterior capsule; the lens may also form adhesions with the cornea, in case of perforating ulcers of the latter, the aqueous humor being evacuated and the lens brought in contact with the latter. Slight wounds of the capsule may heal either with or without a visible cicatrix; penetrating injuries of the lens however are generally followed by opacity, softening and often with final absorption of the lenticular portions, the capsule being left as a delicate membrane floating behind the pupil. Concussions of the globe either from blows upon the eye or the head often produce opacity of the lens.

Attempts have been made to show that the lens after its destruction may be reproduced, but there are probably no observations sufficiently well authenticated to establish the fact.

In childhood the thickness of the lens at the axis is greater in proportion to the diameter than in advanced age. In childhood also the lens is much softer and elastic than subsequently. In infancy and old age the anterior convex surface is much nearer the cornea, making the anterior chamber much smaller than during other periods of life.

In advanced age the lens even when transparent acquires a yellowish cloudy appearance, which may be mistaken for cataract. Changes in the color of the choroid in the aged renders this cloudy appearance more perceptible. There is another peculiarity in the lens of many aged persons, which, like the rinkles in the face or the loss of pigment in the hair, can scarcely be considered as disease. An examination of a large number of aged individuals with the opthalmoscope will reveal in a certain proportion the presence of short dark lines arranged around the perpiphery of the lens. Since these lines are so often known to exist many years with scarcely any imperfection of vision, some pathologists have regarded them as one of the changes of old age and not necessarily as evidence of incipient cataract. This change in the appearance of the lens is analagous to the arcus senilis of the cornea. It in fact has been called the "arcus senilis of the lens."

The crystalline lens performs two important functions. With the cornea, aqueous and vitrious humors, it causes the rays of light from objects to converge and form an image within the eye.

It is also the instrument by means of which the eye is so readily adjusted to distinct vision at different distances.

PATHOLOGIA GENERALLIS.

By W. H. PRICE.

Medicine may be compared to a great edifice, the foundation and chief entrances of which represent general pathology, which generally give the proper approach to the separate rooms, special diseases. Compare the state of the practice of medicine with that of anatomy, physiology and chemistry—the great fundamental or preparatory studies. How minute,

how precise, how connected and definite are these, yet how loose—indefinite, uncertain, unconnected is the practice of medicine when not based upon its foundation, general pathology. To the public it appears altogether vague without any acknowled principles. Is there any wonder then that quackery should triumph, that the public show their want of faith in legitimate medicine by their ready belief in any novelty that is not legitimate. Thus one year St. John Long plan, another homœopathy, another Morrison's pills, another the water cure, rules the fashion. The public may show their ignorance by such credulity, but they show also the want of something plain and trustworthy in regular practice. The public will not believe that the secret of the art is with a faculty which professes to follow experience only. The quack also can appeal to his experience, and that too in a way more striking and convincing than those who express doubts and admit difficulties. Thus one who cures nervous diseases can calculate his success by the numerical method. In 8,000 cases he can count only 20 failures. Another will tell of an extraordinary percentage of success in cases of deafness, in which the most eminent practitioners had failed. Hence the partisans of quackery are more zealous in the defence of their favorite notions, than others are in support of the regular art. No wonder that homœopathy and the water cure have their royal and noble advocates. Then there is a captivating simplicity in the theories of quacks. A certain high official personage pins his faith to an empiric who was a gardener, and whose notion is, that all diseases proceed from buttercups. This is the theory, every man, woman and child eats mutton, beef, or butter, or drinks milk; every cow and sheep eats buttercups with its grass; buttercups are rank and acrid weeds; all diseases proceed from buttercups. How beautifully simple! How attractive, too, are the comprehensive views of the hygeist and the water curers! They both agree in their pathology; all diseases arise from bad matter in the blood; they only differ in their mode of expelling it from the

system. One purges out the peccant humor, the other washes and sweats it forth.

On the other hand the regular practitioner has nothing so plausible or so captivating to bring forward in explanation of his method, unless he has made general pathology the basis of his practice. He either has no theory at all and grounds his practice on experience, or if he gives a theory it is viewed only as an opinion, no better than the hypothesis of the quack in an art so little founded on principles as medicine, would be, without general pathology. General pathology is the basis of practical medicine, without it, it is impossible for the young practitioner to practice his art with any degree of success. To undertake the practice of medicine without a knowledge of general pathology, is like a person beginning the study of mechanics with the steam engine, or to the student of chemistry commencing with organic matter. The general result is, that where any distinct notion of disease is acquired, it is one not at all founded on previous physiological knowledge; but it is a new idea of disease as an absolute separate thing, not a mere condition consisting of altered function and structure, but a being, the character and history of which are to be detailed like that of a plant or an animal.

If now the student, who has not previously acquired any general ideas of pathology, but simply studied the dry mass of disease in detail, is followed to the bedside, well crammed with his nosological list and definitions, it will be seen how his knowledge, so meritoriously and laboriously obtained, will serve him in the hour of need. In a few cases of fully developed and well marked acute diseases, such as pleurisy, scarlet fever, or rheumatism, he may get on very well, but in the commoner description of cases, acute or chronic, in their early stages, in their endless variations, from peculiarities of constitution, or from complicating causes, he finds himself continually at a loss, the phenomena do not correspond with any of his defined diseases, they frequently change their character in a way that he cannot account for; his prognosis

falsified, his diagnosis fails, and his treatment, although not always unsuccessful, does not answer according to his expectations—some patients recovering whom he expected to die, others dying or not improving whom he expected to recover. Disappointed in the failure of his nosological learning, the young practitioner more and more mistrusts it, and falls into a routine of empirical practice. Without troubling his head about the name or nature of diseases, he thinks solely of their treatment, and begrudging the time that he has spent with books and lectures, he decries everything that is not practical. Still he is obliged to retain some notions of the theory of disease; but they are general notions, and not fettered by definitions. He still studies symptoms, he seeks in the pulse and heat of skin indications of fever and inflammation; he looks to the tongue and alvine evacuations, for proofs of disorder of the digestive system; he judges by the complexion and muscular strength the state of the constitution. In short, he has in practice learned himself, in a loose way, at the expense of previous studies, and sometimes, it is to be feared, at the expense of some bad practice, what he ought to have previously studied as the foundation of his practice. This we are led to the conclusive presumption that general pathology is the proper basis for practical medicine, and I venture to affirm that the chief reason why the practice of medicine has been commonly so distasteful and so unsatisfactory when tested at the bedside, is because its foundation has not been efficiently studied.

I think that a knowledge of general pathology is a more efficient help at the bedside than such knowledge of diseases, as is to be obtained only from nosological definitions and details. Without the connecting link of general pathology, practical medicine derives little or no aid from anatomy and physiology. Instead of being founded upon them, it is studied and practised quite independent of a full knowledge of them, and is generally acquired in proportion as they are forgotten. This kind of practical medicine is much the same as

that of old women and nurses, it consists chiefly of treating symptoms by remedies that have been found useful in similar cases, without the trouble of inquiring about the causes of the symptoms or the precise seat of the disease. Thus, if a person complains of headache and giddiness, leeches are applied, purgatives are given, because they have been found useful in similar cases. An intimate knowledge of the structure and functions of the contents of the head would give no farther help in the use of these remedies, nor suggest others, if these be found to fail. If they do fail, the only resource is in experiment: first one thing is tried, then another, until much mischief may be done, or at last, perchance, the right remedy may be hit upon, and this may be the very opposite of those first used. Long experience may make the symptom treating practitioner more successful, if he be an observing man, because it will acquaint him with additional symptoms to be considered for the guidance of the treatment. But there are few of this class of practitioners who are careful, observing men, and that profit by their experience. But the benefit of such experience is gained at the commencement by the student of general pathology. He has learned to trace symptoms to their causes. Having been taught by anatomy the peculiarities of the circulation in the head, and by physiology confirmed by clinical observation, that this circulation may be similarly impeded by opposite causes, inanition as well as fulness, he is prepared to find out through other symptoms which is the cause of the headache in the case before him, and he adapts his remedies accordingly. In fact, a true pathology and sound principles of medicine are the embodiment of the results of experience in disease, with a knowledge of structure and function in health.

General pathology is the only connecting link between the preparatory sciences and practical medicine. It needs only the growth and continued support of its chief members, especially anatomy, physiology and clinical observation, to become the perfect and efficient director of practical medicine.

The great proof of the practical utility of general pathology, is the aid which it gives in the study of clinical medicine, and the light which clinical medicine throws on it continually. The states which the practitioner has to treat are often too indefinite or too mixed to correspond with any of the definitions of special disease. They frequently consist of functional disorder, varying with time and circumstances, or changing its place so as to present no fixed characters. But compared by the pathologist with the standard of health and analyzed from their complexity, their nature becomes intelligible, and their proper treatment obvious so far as means are possessed to counteract or control that which is wrong. See in the disordered state of health, which some call disordered constitution, others indigestion, how the pathologist analyzes the symptoms of such a state, in the white or yellowish furred tongue, morbid crustations, tender epigastrium, sometimes full right hypochondrium, with extended dulness on percussion, the discolored fæces, the high colored and turbid urine. In these he finds proof of congestion and disturbed secretion of the liver and upper part of the alimentary canal. He recognizes in the remedies employed, means, which by increasing the secretions, relieve the congestion, and if these fail he can suggest other measures which he knows to be efficient in removing congestion and restoring the natural secretions. Again great confusion in diagnosis as well as in practice, has arisen from comprehending under the specific name of hysteria the most opposite and the most varying conditions, merely because they are consorted with some nervous phenomena, so that this word becomes almost synonymous with female diseases. But pathologically considered, the confusion in diagnosis, and in some measure the perplexity in regard to treatment, cease. In one case the pathologist finds the uterine function impaired, but this only in common with other functions. In this condition of the system he finds a want of blood throughout the body, which want is denoted by the waxy complexion, the pallid lips and gums, the loose yet

easily quickened pulse, the panting breath, the feeble limbs, &c. Here the restoration of the blood is the obvious indication, and in proportion as this is effected, the symptoms of nervousness, debility and loss of function disappear. In another case called hysteria, the pathologist discovers the opposite condition, that of sanguineous plethora, which, independently of any disorder of the uterus, causes trouble in different parts of the economy, but especially in the nervous system, which in most females is peculiarly liable to disorder. Here, too, he is led to the most appropriate treatment. This is but one instance out of many that might be adduced to show the great practical utility of general pathology. In fact the leading rules, those which guide the most experienced men, are founded on general views of diseased function and structure. Practical men do not treat a disease merely according to its name or according to the nature of the local mischief. Inflammation is not always to be combated by venesection nor hemorrhage by styptics. The condition of the system, that is, of the functions, is to be duly considered, and the variations of this condition, the states of sthenia and and asthenia, tone and debility, excitement and depression, plethora and anæmia.

It is a fact, that practitioners do act more on general ideas of disease than on their knowledge of particular diseases. They feel the pulse and the skin to guide them in the use of venesection, whether they have found out the special disease or not. They examine the tongue and inquire as to the state of the evacuations to guide them in the use of purgatives, under whatever complaint the patient labors. They consider the complexion and bodily strength in connection with dietetic measures, and the chief treatment of convalescence depends on rules suggested by general pathological knowledge. It is then very important that these general views, which are so practical and so extensive in their application, should be well studied, and that the leading doctrines of disease should not be left to be picked up from casual retrospects of experi-

ence, but they should be learned as the very ground-work of practical knowledge. What, then, in this general pathology which is so much extoled by the profession as the proper foundation of practical medicine? It is not a collection of hypotheses hung on solitary facts, and ingeniously devised to explain this or that symptom, or the *modus-operandi* of this or that remedy. It is not anything floating on conjectural notions in anatomy and physiology, such as the existence and circulation of a nervous fluid, or the vital attractions and repulsions of the circulating fluids, notions which, however they may hereafter be substantiated, are at present too speculative to form a foundation for pathology. Nor is it a partial set of opinions erected on one only of the many pediments of fact on which the science of medicine should stand. Healthy anatomy, physiology, physics, chemistry, the study of clinical medicine, that of materia medica, morbid anatomy—neither of these alone can furnish a basis for pathology—that basis must be formed by ALL the facts which all supply, constitute the material of which it is built, and the general facts or laws of all must be brought to bear on the arrangement of these materials in the construction of a system of pathology. In fact general pathology is like the trunk and great branches of a tree, of which special pathology constitutes the leaves and boughs—all preserving an identity and connection, yet each portion having peculiarities of character which require seperate study.

CEREBRO-SPINAL MENINGITIS, OR SPOTTED FEVER.—TREATED BY BLISTERING AND BELLADONNA.

By E. R. TRAVERS, M. D., Amboy, Ills.

May 9th, 1865, I was sent for to see a patient, Miss Jannett Munger, aged eighteen years, residing at Mr. John Fagan's house, in Bureau county. I found her suffering from chronic

spasmodic muscular contractions, with most distressing opistholonos, and partial paralysis of the limbs, and a little delirious, with several spots of a well marked florid color, with a quick but fluttering pulse, and moist white coating over the tongue, and considerable palpitation of the heart. After making some inquiries, I found that the day previous she had a well marked chill, with a feeling of general indisposition, which was followed by a high fever and soreness of the throat. Her bowels being constipated I ordered a mild laxative, and applied a blister over the back of the neck, and then had the blistered surface smeared with Ung. Belladonna. I also gave her the following mixture: Tr. Belladonna, Tr. Viratrum Viride, Tr. Digitalis, aa. m. iii. every hour, until she was easier, then I continued the same every three hours, and stopped the Belladonna as soon as I perceived its constitutional effects make their appearance. My patient improved under this treatment every day. Her spasms became less frequent, and of shorter duration. In seven days I pronounced her convalescent, and ordered her a preparation of Iron and Quinine, to take a couple of weeks. She is now quite well and entirely recovered. I would be pleased to learn if this remedy had ever been recommended for this disease before, or if any of your readers have tried it. I was led to adopt it from general principles, and I am persuaded to the opinion that in this case it proved a great desideratum.

SELECTED.

HISTORY, THEORY AND PRACTICE OF SYPHILISATION.

By PROF. W. BOECK, of Christiania.

Delivered in the Theatre of the Meath Hospital and County of Dublin Infirmary, on Friday, June 2, 1865.

GENTLEMEN:

I have been requested to deliver a lecture on syphilisation: I willingly comply with the request, as Dr. Moore has had the goodness to translate my lecture, but I must apologize for my imperfect pronunciation of your language.

By syphilisation I understand the mode of treatment by which, by repeated inoculations of syphilitic matter, taken from primary sores, I bring the body into the condition that it is no longer susceptible of the action of the syphilitic virus.

It will, perhaps, be agreeable to you, gentlemen, before I proceed further, that I should lay before you a sort of *resume* of the history of this mode of treatment. Auzias Turenne, of Paris, performed inoculations of syphilitic matter upon animals to see whether this virus could be transferred to them, which up to that time had been denied. In this he was at length successful, and it was chiefly apes which could with the greatest facility be inoculated. After chancres had been repeatedly produced in the same ape, a great many skeptical physicians wished to see his inoculation, and a meeting was appointed in the *Jardin des Plantes;* the old ape was inoculated, and a still greater assembled a few days later to see the result. But when the ape was brought in nothing was to be seen. It may easily be imagined how this result was received, and that Auzias Turenne was ridiculed, but he did not on that account give up the method; he continued his inoculations, found that the old ape was not susceptible of fresh inoculations, but that a second ape after inoculations got chancres, though this ape also after a series of inoculations became unsusceptible.

Anzias Turenne now saw clearly that he had here a natural law, in itself resembling that which your immortal Jenner had discovered in the inoculation of vaccine matter, and we shall not upbraid him that his French blood now carried him away, and that his first idea was to employ the inoculation of syphilitic matter like that of vaccine matter—as a prophylactic. We cannot gainsay him that his train of ideas is logically correct, but it is not practically correct, for the great rule is, that he only gets syphilis who himself will have it.

As the result of this idea of employing syphilisation as a prophylactic, my friend Auzias wished at the time to syphilise all public girls, seamen and soldiers, and he would willingly have syphilised us all. No wonder, then, that such an idea met with all the opposition that it deserved; but it was not long until Auzias renounced his error, and at the same time there appeared an Italian, Sperino, of Turin, who showed by a series of experiments, that the syphilitic disease was cured during these inoculations, which Auzias, too, at the same time demonstrated. Still, this failed to reconcile physicians to the new method; such a prejudice had been raised against it that both the Academie de Medicine of Paris and the Academy of Turin condemned it without having the necessary materials before them for passing any judgment: the paradox involved in this method appeared to all so enormous as to render proofs of its absurdity unnecessary.

Lecturing in the University of Christiania upon syphilis, and having a section of the hospital devoted to the disease, I carefully investigated all that was advanced upon the subject, and ascertained that there must be some truth in it. I had, through a period of very many years, found that our treatment with mercury is highly unsatisfactory; I therefore considered that, from my position, it was my duty to give a trial to this new method, although it appeared to me as paradoxical as it did to all the world. and notwithstanding that it had been condemned by two Academies. But before I began, I laid down for myself certain limits to which I still adhere. It will be at once observed that I will not speak of the method as a prophylactic: this would be immoral: but neither am I at liberty to employ it in every case of syphilis; it is only when syphilis has become constitutional—when the syphilitic virus flows with every drop of blood through the system—that I allow myself also to inoculate it upon the skin.

The next question is, whether I shall employ syphilisation in every case of constitutional syphilis?

By a fortunate coincidence it happened that of two individuals whom I first took under treatment by syphilisation, one had not been treated for syphilis, while the other had been the subject of all the resources of our art. In the first the inoculations proceeded without difficulty, the symptoms gradually disappeared—in a word, I found myself upon the beaten path. In the other case, all was irregular, I could effect no order at all, and when my first patient was well, the phenomena in the second were still in full bloom. I immediately began to suspect that it was to the medicines previously given that this result was attributable, and on subsequently investigating this opinion, its truth has been most completely confirmed; so that I have made it a general rule to syphilise only those who have not previously been treated with mercury, whether this has been employed for primary or constitutional symptoms. But if I be asked whether syphilisation has not some effect in these cases, I can answer decidedly in the affirmative—it often acts incredibly. Dr. Simpson, of Edinburgh, has recently described two such cases which were sent over to me by Professor Simpson; what is there stated corresponds precisely with what I have myself noted, and of which any one may satisfy himself. But the reason why I do not undertake the treatment of such individuals is to avoid having relapses, which in these cases are apt to occur.

Now, in order to make my usual mode of proceeding as plain as possible, I shall suppose that a person laboring under primary syphilis consults me. In this case I treat the primary sore as a simple ulcer—I prescribe a weak solution of sulphate of zinc or such like, and occasionally employ a slight cauterization with nitrate of silver; I give no internal medicine, but make the patient come to me once or twice a week, that I may observe when the constitutional symptoms break out, for the earlier syphilisation can be commenced the better. So soon as I perceive the first constitutional signs, I commence the treatment by taking the matter from an indurated chancre or from an artificial pustule in a patient under treatment by syphilisation. I inoculate first on both sides of the chest, and make three punctures with a lancet precisely in the mode adopted in vcacinating. After three days pustules are developed, and then I inoculate again in the sides, taking the matter from the pustules produced by the first inoculation, observing carefully to make the second inoculation at a distance from the first, so that the sores may not become confluent. At the end of three days I make the third inoculation, taking the

matter from the pustules of the second inoculation; and now I continue to inoculate on both sides every third day, always taking the matter for the fresh inoculation from the pustules last formed, so long as this matter continues to afford a positive result. When it no longer takes I procure new matter in the same mode as for the first inoculation, and continue with this as with the first. This second matter will yield smaller sores and a shorter series than the first, and when it no longer takes I procure a third and proceed in the same manner. This third matter will produce very little effect, and I therefore pass to the upper arm, where I proceed in precisely the same mode as in the sides; and when no effect is any longer visibly in the upper arm I remove to the thighs, and continue there in the same way as in the two preceding places. By the time the inoculations are here brought to an end, from three to three and a half or four months have probably elapsed, the symptoms which manifested themselves from the commencement have disappeared, or if some slight symptom has remained this disappears spontaneously. It often happens that during the treatment a fresh outbreak takes place, and he who is not acquainted with the method believes that some other plan must now be adopted; another infers that syphilisation is of no avail. But, let them not be deterred by any symptom, not even the most severe iritis, which never requires anything but the instillation of a little atrophia. But happen what may, let them shut their eyes to it and continue the inoculations. The patient who, during the whole treatment, can attend to his business, feels, after it is completed, perfectly well, and may immediately expose himself to any hardships. He can endure wet, cold—in a word, everything which after mercurial treatment would render him liable to life-long illness. It is probable that I may now be asked as to the result at a later period for these individuals, and I shall speak first of the relapses. On the whole, I have treated 429 individuals, and of these 45 have come back, making 10½ per cent.; but, as we may calculate that some of those treated during the last year may return, I will assume that the relapses may amount to 12 or 13 per cent. But let us now examine more closely what is called a relapse after syphilisation. In many instances a single mucous tubercle, a small white spot on the tongue or in the throat—symptoms for which nothing more than external means are employed, and which the patients are treated only for a few days in hospital. So far as I at this moment remember, thirteen were taken again

under treatment with syphilisation, and two with iodide of potassium.

You will next ask whether tertiary symptoms have been developed in any of them. This has been the case, I believe, with three; but at the same time these individuals have been perfectly well—their general health has not, as so often happens after murcurial treatment, been broken down, and in those who have had relapses it has been good, and it is evident that in those who have had no relapse it has been particularly good.

We come now to the children of those who have been syphilised. Here we are not much better off than after the mercurial treatment; we see the same rule to prevail as after this last method, namely—that when the mother has been syphilitic, the first child or children is or are syphilitic; that they are healthy is the exception. If the father has been syphilitic, the children are, in general, healthy; that they are syphilitic is the exception.

You will next propose to me the question how I treat syphilitic children. I treat them precisely as I do adults; and it is interesting to see that the sores in these little ones bear in size a proportion to that of the child, and that the patients suffer less, and not more, than adults. The results of syphilisation in children with hereditary syphilis have not been brilliant; of forty-two children, twenty-two died, but I have taken under treatment every case that I have met with, and every one knows that in such children there are very often affections of the internal organs which lie beyond our power to cure. I cannot at this moment say how many little children with acquired syphilis I have syphilised, but they are not few, and of these only one died, the cause of death in that instance being croup after I had performed tracheotomy. Of adults two died—an old woman of dysentery, and a young woman of puerperal fever. This last case I forgot to include in the *resume* I have given in the *British Medical Journal.*

Now, in order to give you a definite idea of the confidence I have in this method after having practised it daily for thirteen years, I shall say only that if I myself, or any of mine, were so unfortunate as to get syphilis, I should employ no other means than syphilisation.

Still, a few words in conclusion, gentlemen. Vaccination has for many years stood alone; syphilisation now comes to join it. Shall we stop here? I believe not. Vaccine and the syphilitic matter are both animal viruses; we see them

contained under a similar law. May not also the other animal poisons be referred to a similar law? We see that Nature is simple in her diversity: should this not also here be the case?—should not glanders, hydrophobia, &c., sometimes be curable? Let us all seek to clear up this dark point in our science, and let us not, as hitherto, with respect to syphilisation, seek only to extinguish the rising gleam.—*Med. Times and Gazette.*

NEW PROCESS FOR MAKING FLUID EXTRACTS.

This invention relates to an improved process for producing that class of extracts which are made so that a certain amount of liquid shall represent, pound for pound, medically, the same quantity of crude drug, and which are generally obtained by extracting with a large excess of liquid and evaporating down to the desired strength. The menstrua used for making extracts are usually of an ethereal or volatile nature, such as alcohol of various strengths, and their strength changed by evaporation, as they are exposed for a longer or shorter period to the open atmosphere. If such menstruum is poured over a certain drug, it dissolves and extracts more or less of the soluble parts of the same, according to its strength; if the same liquid has to be poured repeatedly over the same drug, it loses its strength alcoholically, and some of those portions first dissolved are precipitated, and an imperfect extract is the result. The value of the extract being determined by its alcoholic strength when finished, the same or similar reasons render it objectionable to subject the extract when first obtained to the evaporating process, for by this process the volatile or spirituous part of the menstruum is first evaporated, and the weaker liquid is not capable of keeping in solution many of those parts of the drug which has originally been dissolved in the extract.

The objections are obviated by my process, which is carried out in the following manner:—I first weigh off a quantity of drug, and the same quantity or more by weight of the menstruum or liquid by means of which the extract has to be

made, a little more of the menstruum being required as a little moisture is left in at the last pressing. The drug being ground to a proper fineness, is then damped with a small portion of the liquid and subjected to heavy pressure (say from 800 to 1,000 tons); already all the liquid, or nearly so, together with such parts of the drug which have dissolved in the same, is expressed. A fresh portion of the liquid is then sprinkled over the drug, a little time being allowed for the liquid to dissolve the soluble parts of the drug, and the same process of pressing repeated until the whole quantity of the liquid is used up, and the drug is completely exhausted and the required measure obtained. By this process an extract is obtained which represents, pound by pound, the crude drug. The drug is perfectly extracted, and the menstruum preserves its original strength throughout, so that the same is capable of retaining in solution all those parts which are dissolved during the various stages of the process. Furthermore, by my process the tedious and expensive process by evaporation is dispensed with, and concentrated fluid extracts of any de-description can be produced cheaper and better than by any process heretofore applied, and as the application of heat is entirely avoided, the preparation does not receive the injury by heat that all such preparations are liable to if heat is applied to them, no matter how carefully done or moderate the degree of temperature, and furthermore, the changes thereby of strength of solvent are avoided. [From United States Patent, taken out by Mr. Spencer Thomas.]

PROCESS OF DISINFECTION.

The following memoranda on disinfection have just been issued by the Privy Council; and, considering the circumstances under which they are published, we feel bound to assist in giving them all publicity:

"1. For purposes of artificial disinfection, the agents which most commonly prove useful are—chloride of lime, quicklime, and Condy's manganic compounds. Metallic salts—especially perchloride of iron, sulphate of iron, and chloride of zinc, are, under some circumstances, applicable. In certain cases

chlorine gas or sulphurous acid gas may advantageously be used; and, in certain other cases, powdered charcoal or fresh earth.

"2. If perchloride of iron or chloride of zinc be used, the common concentrated solution may be diluted with eight or ten times its bulk of water. Sulphate of iron or chloride of lime may be used in the proportion of a pound to a gallon of water, taking care that the water completely dissolves the sulphate of iron, or has the chloride of lime thoroughly mixed with it. Condy's stronger fluid (red) may be diluted with fifty times its bulk of water; his weaker fluid (green) with thirty times its bulk of water. Where the matters requiring to be disinfected are matters having an offensive smell, the disinfectant should be used till this smell has entirely ceased.

"3. In the ordinary emptying of privies or cesspools, use may be made of perchloride of iron, or chloride of zinc, or of sulphate of iron. But where disease is present, it is best to use chloride of lime or Condy's fluid. Where it is desirable to disinfect, before throwing away the evacuations from the bowels of persons suffering from certain diseases, the disinfectant should be put into the night-stool or bed-pan when about to be used by the patient.

"4. Heaps of manure or other filth, if it be impossible or inexpedient to remove them, should be covered to the depth of two or three inches with a layer of freshly burnt vegetable charcoal in powder. Freshly burnt lime may be used in the same way, but is less effectual than charcoal. If neither charcoal nor lime be at hand, the filth should be covered with a layer some inches thick of clean dry earth.

"5. Earth, near dwellings, if it has become offensive or foul by the soakage of decaying animal or vegetable matter, should be treated on the same plan.

"6. Drains and ditches are best treated with chloride of lime, or with Condy's fluid, or with perchloride of iron. A pound of good chloride of lime will generally well suffice to disinfect 1,000 gallons of running sewerage; but, of course, the quantity of disinfectant required will depend upon the amount of filth in the fluid to be disinfected.

"7. Linen and washing appearel requiring to be disinfected should without delay be set to soak in water containing per gallon about an ounce either of chloride of lime or of Condy's red fluid. The latter, as not being corrosive, is preferable. Or the articles in question may be plunged at once into boil-

ing water, and afterwards when at wash be actually boiled in the washing water.

"8. Woolens, bedding, or clothing which cannot be washed, may be disinfected by exposure for two or more hours in chambers constructed for the purpose to a temperature of 210 to 250 degrees Fahrenheit.

"9. For the disinfection of interiors of houses, the ceilings and walls should be washed with quicklime water. The woodwork should be well cleansed with soap and water, and subsequently washed with a solution of chloride of lime, about two ounces to the gallon.

"10. A room, no longer occupied, may be disinfected by sulphurous acid gas or chlorine gas—the first by burning in the room an ounce or two of flowers of sulphur in a pipkin; the second, by setting in the room a dish containing a quarter of a pound of finely powdered black oxyd of manganese, over which is poured half-a-pint of muriatic acid, previously mixed with a quarter of a pint of water. In either case the doors, chimney, and windows of the room must be kept carefully closed during the process, which lasts for several hours.—*Chemical News.*

ON THE TREATMENT OF CROUP BY THE INHALATION OF LIME-WATER.

M. Kuchenmeister, of Dresden, has stated that diptheritic membranes are rapidly dissolved in lime-water; and this statement has been confirmed by M. Biermer, the Professor of Clinical Medicine in the University of Berne, who has repeated the experiment before the students of his class.

The *Brit. For. Med. Chir. Review* says that some pseudo-membraneous exudations, of considerable extent and thickness, were placed in a small glass of lime-water, and in the space of from ten to fifteen minutes, and before the eyes of the students, they disappeared, leaving only a very slight sediment at the bottom of the glass. M. Biermer was therefore induced to apply the lime-water locally in a living patient, and he has published the results, which were quite satisfactory. The patient was a girl, aged seventeen, admitted in-

to the hospital of Berne for croup, which had lasted four days. When she was admitted, she was nearly choked, cyanotic, and insensible, and she threw up portions of membrane only by means of the administration of some very strong irritant medicines. The symptoms of laryngeal constriction still continued, together with distressing dyspnœa; and pulverized water was employed to moisten the respiratory passages. The water employed, which was at first hot, and then boiling, produced considerable amelioration; and M. Biermer, having previously tried the experiment mentioned above with the false membrane and lime-water, supplied the pulverizer with lime-water. The improvement was evident as soon as the inhalations were commenced; the expectoration changed its character, and became purulent; the cough gradually disappeared, and the fever abated; and only hoarseness and a slight cough remained during the convalescence, which terminated in a complete cure. M. Biermer and all those who watched the progress of the case, were convinced that the inhalations had a solvent effect upon the false membranes; but the professor does not recommend an exclusive adoption of this local treatment, which softens and detaches the exudations, but does not reach the cause of the disease, which must be combated by constitutional remedies, calomel being considered the chief. The plan of M. Biermer has been followed by other practitioners; and M. Kuchenmeister has published a case of diptheritic pharyngo-laryngitis in a child of three years and a half old, treated in the same manner with complete success. Dr. Brauser, of Ratisbon, has also lately published a case of croup in a child of four years and a half old, treated in the same manner, and perfectly cured. M. Biermer insists particularly on the necessity of using the injections hot.

THE CIRCULATION OF SAP IN TREES, AND THE FORMAMION OF MAPLE SUGAR.

Trees are made up of fine tubes which extend from the root to the leaf, and it is through these tubes that the circulation of the sap is carried on. If a growing tree is pulled up by the roots, and the roots are placed in a vessel of water containing some colored solution which they will absorb, we

can trace the course of this colored solution through the tree by cutting notches into it at successive periods. The coloring matter is always found first in the body of the wood near the root, then in the wood higher up, and so on until it reaches the leaf; then it begins to appear in the inner bark near the leaf, and it passes down through the bark again to the root. This observation shows that the circulation of the sap is up through the wood, and down through the bark.

There has been much speculation in relation to the force that causes the sap of plants to circulate, but it has never been settled by observation and experiment. It is pretty well established that sap circulates in the winter, though less rapidly than in the summer, and less rapidly at that time in deciduous than in evergreen trees.

The solid portions of thoroughly dried wood, and other parts of plants, are composed mainly of water and charcoal. When charcoal is burned, a small portion of ash is left. This ash is the mineral or inorganic portion of the substance of the tree, and consists principally of potash, lime, and flint or silex. That portion which burns is carbon. In burning, the carbon unites with oxygen to form carbonic acid, an invisible gas that floats away in the atmosphere.

The water and the inorganic matters enter the tree through the roots; the carbon enters mostly through the leaves. Carbon forms about one-half of the solid substance of the tree, and water the other half.

Water is composed of two elements, oxygen and hydrogen, in the proportion of eight pounds of oxygen to one of hydrogen. These in entering into a chemical combination with carbon, lose the liquid state of water, and form the various solid substances which make up the body of the tree.

In its course the sap undergoes important transformations. The trunks and leaves of trees are scenes of constant chemical operations, many of them more mysterious than any of the operations of the laboratory. One of these is the decomposition of carbonic acid in the leaf. The affinity of carbon and oxygen is very strong indeed, and there are few forces in nature that can rend these two elements asunder; but the combined action of light and vegetable life is separating them throughout every day in the leaves of all growing plants. Carbonic acid is absorbed from the atmosphere by the leaf, its two elements are torn apart, the oxygen is returned to the air, and the carbon combining chemically with other elements in the sap, is carried to the places where new wood is being

formed, and is there deposited in its proper place to help build up the structure of the tree. The symmetrical order in which the carbon is deposited in a try may be seen by looking at a piece of charcoal.

If wood is examined under a powerful microscope, it is found that the tubes through which the sap circulates are formed of minute sacs or cells. The substance of which the walls of these cells are formed is called cellulose. It has been the subject of a great deal of chemical research, and is found to consist of carbon and water, or more strictly, of carbon and the elements of water, oxygen and hydrogen. Cotton and linen are almost pure cellulose. Each atom of cellulose contains twelve atoms of carbon, ten atoms of hydrogen, and ten of oxygen, C_{12} H_{10} O_{10}. Starch, gum, and sugar all have the same composition, C_{12} H_{10} O_{10}. This is one of the wonders of chemistry, that substances composed of the same elements, combined in the same proportion, should have properties so different as gum, starch, sugar, and cotton or linen fibre. Their different properties must of course result from the varied modes in which the atoms are arranged.

Besides these four substances there is one other constituting a considerable portion of the body of trees, which is also formed of the same elements as the others, but in slightly different proportions. This is lignin. It is an incrustation on the inner surfaces of the cell walls, and its office appears to be to strengthen and stiffen these walls. Its constitution is C_{12} H_8 O_8. In this case, as in the others, there are just as many atoms of hydrogen as of oxygen; these two elements enter into the compound in the same proportion to each other as that in which they unite to form water. If a tree or other plant is thoroughly dried so as to expel all of its uncombined water, nine-tenths of the remaining substance consists of the five compounds, cellulose, lignin, starch, gum, and sugar, and all of these are composed of hydrogen and oxygen in the same relative proportion as that in which they exist in water, chemically combined with carbon.

Why it is that the atoms of these substances are so arranged in one part of the plant to form cellulose, and in another to form starch; why it is that they are so arranged in one tree as to form gum, and in another to form sugar, are mysteries which lie beyond the present boundaries of human knowledge.

There is one other organic element, and several inorganic, besides those mentioned, which enter, though in small quantities, into the constitution of plants, but a full discussion of

the part which they perform in vegetabl economy would demand an exhaustive treatise on agricultural chemistry and vegetable physiology.—*Am. Drug. Circular.*

SYNCOPE—ASPHYXIA—POISONING.

In the *Dublin Med. Press* Dr. Brown Sequard publishes a lecture on the brain and nervous system, from which we condense some of the closing remarks, eminently interesting and practical:

In cases of syncope—not death, but those conditions which are on the verge of death, and which lead to death, if nothing is done to relieve them—there are very frequently means of restoring life. In animals, very frequently, though the heart is quite stopped, we can by simply pressing on the sternum, and by giving a hard push to the heart, make it beat. It will not beat long if the cause of the syncope is a powerful one; but beat it will, and if the cause of irritation is continued, it will continue to beat, and in that way the patient may be often revived. This is not all. If there is added another most powerful cause of revival, and which is directly the reverse of what John Hunter did upon himself, when he found he was in a state of syncope one day at College—if instead of breathing as quickly as possible, the patient's breathing is stopped altogether, just as if we were trying to kill him by suffocation, we revive him by producing a state of asphyxia, the patient is saved, he will have a struggle, and will come out of it very quickly. Nothing is more powerful to make the heart beat than an accumulation of carbonic acid in the blood. There are other features about syncope of great importance. If there is little blood circulating, you may in a moment throw something like one or even two pounds of blood into the heart by simply pressing on the four main arteries of the body. If you press those four arteries you prevent circulation going on in them, and at once an immense quantity of blood returns from the venous system to the trunk, and there is an immediate revival.

In regard to *asphyxia*, experiments show clearly that of two animals, one of them with its temperature, both dipped into water at the same time, the one having its temperature very low will survive the other twice, three times, and sometimes even five times; the duration of life under water being extended sometimes to twelve or fifteen minutes. *The greater the previous diminution of temperature the longer the duration of life.* There is another fact which is a very interesting one. It is well known that persons who have fallen into very cold water have in many cases been drawn out and revived after a number of minutes' immersion. Now, in experiments performed upon animals by applying galvanism to the part, so as to stop the heart's action, which is just the effect a fall into water will produce, we find life will last much longer, the animal will be able to survive a much longer stoppage of the heart's action from having had an attack of syncope just before the asphyxia. This case, then, is exactly the reverse of the former. In one, syncope was cured by asphyxia, in the other asphyxia is less mortal, because syncope previously existed.

In cases of death by asphyxia, if the temperature is low, there is one fact very similar to what we see in cases of sudden emotion producing arrest of the heart's action when the individual falls into cold water, and that is, that in the two cases—diminution of temperature, or dipping into water—the heart beats very much slower. Any patient attacked with asphyxia, whose temperature is much diminished, has a slow beating of the heart, and whose blood is red, is not exactly an asphyxiated patient; there is a mixture of syncope and asphyxia, and the patient has much more chance to recover. If you try to raise the temperature of such a patient, you run the risk of killing him.

Poisoning is often the cause of death by producing such diminution of temperature as is incompatible with life. Take, for instance, two animals which have been poisoned with the same quantity of opium. Supposing the temperature to be cold in the room, lay them both on a table, one covered carefully with warm clothes, the other exposed to the cold, you find, *cæteris paribus*, that the one which is kept warm will survive, while the other will die. This fact we find with almost every poison of an organic nature, that there is considerable diminution of temperature produced, if not *per se* sufficient to cause death, enough, at any rate, to add a powerful cause to the other causes existing. This diminution of tem-

perature is a feature which we can fight against, and it is therefore of the utmost importance in cases of poisoning to use every means to keep up the temperature of the body.

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PRICES CURRENT.

It is curious to compare the prices current as issued by the various manufacturers of what, in contradistinction to chemicals, are called pharmaceuticals. Take for instance the class of Fluid Extracts, one list before us quotes Fluid Extract of Sarsaparilla (Comp.) at $2.85 per lb.; another quotes the same at $1.25. One quotes Fluid Extract of Buchu at $3.25, another the same at $1.25, and so on, the prices varying from twice to three times as much on one list as on another. Now a fluid extract, according to every acknowledged authority, is made, with a very few well-known exceptions, of such strength that for every troy ounce of the drug there must be just a fluid ounce of the Fluid Extract. This is the strength prescribed by the U. S. Pharmacopœia, and that which of course forms the basis of their employment in the treatment of disease, and especially in making the other preparations of the same drug. Where a troy ounce of a drug is used in making a pint of its syrup, a fluid ounce of its fluid extract added to fifteen fluid ounces of simple syrup, would be expected to furnish a pint of syrup of corresponding strength. So simple and easy is this method of preparing the weaker liquid preparations used in medicine, that it is now very much resorted to by Pharmaceutists and Physicians, and is recognized in several instances in the Pharmacopœia. What, then, is the reason that Fluid Extracts differ so greatly in price from different makers? Is it because some possess facilities for making them so much cheaper than others, or must we look for other causes? This, we think, can be answered conclusively thus: Throwing out of view the exact processes laid down in the Pharmacopœia, to which some manufacturers conscientiously adhere, there are only two considerations which can materially affect the economy of extraction of drugs—these are the completeness of the means of pressure and of the recovery

of the excess of alcohol employed. At the present enormous cost of alcohol it is essential that not a drop shall be wasted to secure an economical result; hence most skilful percolation must be resorted to, connected with pressure for securing every drop of the percolate, and then well adjusted apparatus for distillation must be used in concentrating the liquid. These requirements are met, perhaps, by all the leading manufacturers, and yet this great disparity in prices. The true reason is, undoubtedly, that some few manufacturers make these preparations of full strength, while the majority wholly ignore the standards of the Pharmacopœia, and sell preparations of just such strength as suits themselves. We will not ask whether this is justifiable on the ground of professional ethics, but we put it to the reader whether it is dealing justly towards that very large class of purchasers who are led by names, with very little knowledge as to the real merits of a preparation. If a fluid extract may represent one-fourth its weight of a drug, or may be equal to its own weight, according to the whim of the maker, what value can it have in any rational scheme of medicine? As to the interest of the purchaser, it evidently lies in this, as in all other cases, in getting the best. If a man will ignore the standards of good practice in his manipulations, what confidence can one have in his fairness in business transactions? On the other hand, inflexible honesty in manufacturing indicates a similar principle in dealing. We should not think it necessary to go over these obvious points, but for the purpose of calling attention to an invariable rule which may be applied to these price currents. When a Fluid Extract is offered at a given price, let the buyer count up the cost of the drug, remembering that a pint will take sixteen troy ounces (equal to a commercial pound and near two ounces), with the menstruum, almost always alcoholic, and which by every process is liable to some waste, and the sum of these items will be the minimum cost of the preparations. To get at the fair selling price, a margin must be added for fuel and labor, and a profit of not less than twenty per cent. to the manufacturer. If the price quoted falls much below this, depend upon it there is a deficiency somewhere, and the apparent cheapness does not imply economy to the purchaser.

CARBUNCLE.

Our readers may remember an appeal addressed to the public by a French parish priest, in order to obtain funds for the publication of a pamphlet, in which an infallible cure for carbuncle was to be revealed. This plan seems to have been abandoned for the simple one of publishing the remedy in one of the medical journals; for we find in the *Union Medicale* an article by Dr. Topinard, in which he describes the Dardelle secret as follows:—"Prepare a round piece of linen of a sufficient size to cover the whole diseased part, and spread thereon a slight film of storax ointment, and then a layer of corrosive sublimate (be-chloride of mercury) of the thickness of a two-franc piece. The plaster thus prepared is laid with the greatest care upon the part affected, and kept in its place with strips of sticking-plaster. After twenty-four hours this plaster may be removed, and it will then be infallibly found that the carbuncle or pustule has been destroyed. The place must now be dressed three times a day with storax ointment spread upon linen; and at every dressing the part must be fomented with a mixture of the oil of linseed, cammomile, and hypericum. In the course of eight or ten days the eschar falls off, and the sore is treated like a common one."

This remedy, discovered by a blacksmith of the name of Dardelle, has never been known to fail. Dr. Miso, from whom the prescription has been obtained, has used it these ten years with invariable success; and Dr. Topinard concludes with reason that sublimate exercises a specific action in such cases. It is the more desirable that such a remedy should be widely circulated, since this very morning we find a new case of a man at Annouville-Vilmesnil, near Fecamp, who, having been stung by a venomous fly, neglected applying proper remedies, and the consequence is that his finger has had to be amputated to prevent gangrene. He is now doing well.—*Galignani.*

INFANTILE SYPHILIS.—The use of mercurials is quite unnecessary. Chlorate of potash given in two-grain doses thrice daily is all the medicinal treatment required. The nose usually requires well syringing with warm water. (Mr. R. W. Dunn, p. 224.)

AN ENGLISH CURE FOR DRUNKENNESS.

There is a prescription in use in England for the cure of drunkenness, by which thousands are said to have been assisted in recovering themselves. The receipt came into notoriety through the efforts of John Vine Hall, commander of the Great Eastern steamship. He had fallen into such habitual drunkenness, that his most earnest efforts to reclaim himself proved unavailing. At length he sought the advice of an eminent physician, who gave him a prescription which he followed faithfully for several months, and at the end of that time he had lost all desire for liquor, although he had been for many years led captive by a most debasing appetite.

The receipt, which he afterwards published, and by which so many other drunkards have been assisted to reform, is as follows:—Sulphate of iron, five grains; magnesia, ten grains; peppermint water, eleven drams; spirit of nutmeg, one dram; twice a day. This preparation acts as a tonic and stimulant, and so partially supplies the place of the accustomed liquor, and prevents that absolute physical and moral prostration that follows a sudden breaking off from the use of stimulating drinks.—*Eclectic Med. and Surg. Journal.*

SUCCESSFUL SURGICAL OPERATION.

The French papers tell of the success of a curious surgical operation, heretofore considered impossible. A young girl, turning her head too quickly, dislocated some of the upper cervical vertebræ. A paralysis of the lower limbs and the trunk ensued; the diaphragm alone retained its sensation. Apparently the patient had but a few hours to live. M. Mais sonneuve resolved to attempt to bring the vertrebræ into the former position. With the assistance of a fellow-surgeon, he seized the patient by the top of the head and the chin, and gave a gentle rotary motion to the vertebræ, which resulted in bringing them into their former position. The paralysis ceased almost immediately, and a week after the patient was able to walk as though nothing had happened to her.

CLINICAL LECTURE ON DIPHTHERIA.

By EDW. HEADLAM GREENHOW, M. D.,
Assistant Physician to the Middlesex Hospital.

GENTLEMEN:

I propose to bring before you the subject of Diphtheria, and to take as the basis of my lecture two cases which have recently been in the hospital, and which were characteristic examples of the two principal varieties of this formidable complaint—namely, of that form in which the urgency of the case is due to the local manifestations of the disease, and of that other form in which the danger arises from the general constitutional affection. The former of these is especially characterized by the existence of symptoms of apnœa, and the pressing danger is caused by the more or less complete occlusion of the air passages by the membraniform exudation from which the disease derives its name of diphtheria. The latter, on the other hand, is characterized by the predominance of symptoms of asthenia caused by the intensity of the general disease, and the danger to be apprehended is the general exhaustion of the vital powers. You should, however, fully understand, that although these two forms of diphtheria are so diverse in their more silent characters, and the kinds of danger which attend them, there is yet no doubt of their being, as I have said, only varieties of one and the same disease, for they not only occur constantly during the same epidemic, but very often also in the same household at or about the same time. I have seen many examples of this, and one, which occurred only a few months ago, was especially striking, on account of the severity of both forms, causing death rapidly in both cases. I was called to see a young gentleman aged fifteen, who had come home from school, I believe, with the complaint, and was suffering from most urgent laryngeal symptoms of which, in fact, he died the same evening, almost immediately after the operation of tracheotomy. Four days afterwards his sister, aged eight years, was taken ill with diphtheria of the other, the asthenic form, which also ran an unusually rapid course, and proved fatal on the fifth day of her illness, without the supervention of any laryn-

geal symptoms. Another proof of the identity of the disease in the two different forms is, that although, in many cases, their separate characters are as sharply marked as in my description above, yet other cases occur side by side with them which partake more or less of the characterr of both forms. I say more or less, because in fact one of the two classes of symptoms does usually predominate.

Although the two varieties of diphtheria to which I propose directing your attention to-day are the most important, I must remind you that they are by no means the only forms of this disease. In every epidemic there are many cases in which neither are the air-passages involved nor are there any urgent symptoms of general constitutional affection. Many of these would perhaps at another time be regarded merely as cases of common inflammatory sore-throat; but, occurring as they do at the same time, and frequently in the same household with characteristic cases of diphtheria, we cannot but refer them to the same category. Several of you saw, the autumn before last, a rather severe case of diphtheria, which came from a house in the vicinity of the hospital in which sore throat had previously been prevalent. The lad, aged sixteen, was a shoemaker's apprentice, and slept in the same room with three other boys. The family consisted of eight or nine persons, five of whom, including the three fellow-apprentices, had been under my care as out-patients in quick succession during the preceding fortnight, for sore-throat of varying intensity, but unaccompanied by exudation. Lastly, but still forming a part of the same epidemic—if I may be allowed to apply the term to so limited an outbreak of disease—this lad presented himself, with symptoms of so great prostration that we were compelled to take him into the hospital. His fauces were coated on both sides with the characteristic false membrane, and although he made a good recovery, his illness was severe. Albumen was found in his urine on the day after his admission, and he only regained health and strength after a prolonged and tedious convalescence. Again, cases characterized it is true by more or less diphtheritic exudation in the fauces, but unattended by any urgent symptoms, form a large proportion of every epidemic. Sometimes it even happens that almost all the cases in particular epidemics are of this mild kind. Such cases usually recover under any rational treatment, and it is the consequent great apparent success in treating them which has sometimes led even honest and worthy practitioners to promulgate as a specific for diphtheria

some medicine with which they have treated large numbers of cases; the truth being that by far the greater proportion of these cases required only common care, and would probably have recovered without any medical treatment at all. But although these mild cases so often do well with any or no particular medicine, I must not dismiss them without a word of caution to you, on the one hand, against over-treating them, and, on the other, against neglecting them. I have seen serious mischief ensue from what I must term meddlesome treatment of such cases, especially when in the form of local applications; and yet even the mildest case requires careful watching, because, either by the invasion of the air-passages or by the accession of constitutional symptoms, a case which in its first stages appeared of the mildest kind may subsequently assume a most serious form.

With these preliminary observations, and begging you to bear in mind that I can only bring a small section of my subject, so to speak, before you to-day, I proceed to consider the first of the two grave forms of diphtheria which I have described, as it was exemplified in the more recent of our two hospital cases.

Mary Ann M——, aged eleven years, was admitted into Northumberland ward on the 24th of April, under the care of my colleague, Dr. Thompson. She had been ailing with cold for about a week, and had had sore throat from the first. Two days before admission she had commenced coughing, and at the same time her voice had become hoarse; but, notwithstanding her indisposition, she had continued able to play about with her companions as usual in the open air until the afternoon of Sunday, April 23d, when dyspnœa came on more decidedly, the cough and hoarseness increased, and she became so ill that on the following morning her mother procured her admission into the hospital. At the time of admission her breathing was difficult, labored, and stridulous, and she spoke in a faint, husky voice. Her face was flushed, and the expression of her countenance anxious. Her skin was hot, pulse about 140, respirations about 24 in a minute. Mr. Waymouth, the clinical assistant, under whose observation she first came, states that at the time of her admission there was a small patch of false membrane on the fauces; but when I saw her, two or three hours later, this had disappeared. The case seemed so urgent that Dr. Thompson requested his colleagues, including myself, to see the patient, for the purpose of considering the propriety of performing the operation

of tracheotomy. I found both tonsils enlarged, somewhat ragged-looking and reddened; the pillars of the fauces were also of a dusky-red color, and the glands at the angles of the jaw, especially those on the right side, were slightly enlarged. The tongue was moist, and coated with a white fur. The urine was normal in appearance, and contained no albumen. On examining the anterior part of the chest, I found a deficiency of resonance in the left infra-clavicular region, and the respiration on both sides of the chest sibilant, with slight rhonchus in the upper part of the left lung. I was informed that there was dulness on percussion over the greater part of the left side of the thorax posteriorly, but the child was so ill that I did not attempt to verify this fact for myself. Immediately after the consultation tracheotomy was performed by Mr. Moore, and I shall presently state to you what were my views of the case, and the grounds on which I advocated a decision in favor of operating. From two and a-half to three ounces of blood were lost during the operation, and the pulse at once fell to 128, but shortly became exceedingly feeble. The respirations became comparatively tranquil, and the child fell into a quiet sleep. At eleven P. M., the pulse was 140, the respirations 34; the patient had slept well at intervals, and had partaken very freely of the strong beef-tea and brandy ordered for her. On the 25th it was reported that she had passed a good night and had taken abundance of nourishment. She was perfectly calm, her pulse from 130 to 140; but the respirations, though unembarrassed, were very frequent, being nearly 50 in a minute. The breathing was found to be tubular, and the percussion resonance over the whole of the thorax posteriorly; the respiration over the right scapula was also slightly bronchial; the deficiency of resonance and bronchial breathing below the left clavicle remained as before the operation. Throughout the day and night she continued stationary, coughing a good deal, but expectorating freely, until early on the morning of the 28th, when she became restless and began to have difficulty in raising the expectoration. During the day her breathing became more and more embarrassed, and gradually sank, and died at half-past four P. M., about 48 hours after the operation.

At the post-mortem examination a shallow, ragged ulcer was found on the surface of each tonsil, but both throat and fauces were free from exudation. A small patch of false membrane was lying loose on the under surface of the epiglottis, and the larynx and also the trachea for the space of an

inch and three-quarters downwards, were almost entirely lined with a tough false membrane of about the thickness of kid leather, for the most part lying loosely on the mucous surface, but here and there so firmly attached as to require much force to tear it away. The incision made by the operation had passed directly through this membrane. The larynx, trachea and bronchi contained a large quantity of thick, tenacious, muco purulent secretion. The mucous membrane of the larynx and trachea was generally somewhat reddened, and presented distinct patches of a still deeper redness. On tracing the left bronchus downwards from its origin, the smaller tubes were found to be inflamed and filled with thick mucus. The upper lobe of the left lung was collapsed, and the posterior part of the lower lobe was dark colored and much congested. The right lung was also slightly congested, but otherwise appeared to be normal. The rest of the viscera were healthy.

I have spoken of this case as illustrating one of the forms of diphtheria, because I regard it as having really been a case of that disease, and not one of ordinary croup; and I am led to this conclusion by the fact that sore-throat, although of a mild kind, had preceded the laryngeal symptoms for some days, and still existed at the time of the patient's admission to the hospital. This accords with the ordinary history of diphtheria affecting the air-passages; it commences in the fauces, and usually, after a shorter or longer interval, creeps downwards into the larynx and trachea. The interval between the commencement of the illness and the accession of laryngeal symptoms may indeed be very brief, sometimes not exceeding a few hours, but in my experience it has more frequently been several days, though very rarely protracted beyond a week. One reason why laryngeal diphtheria appears to commence suddenly is the fact, to which I have already adverted, that the earlier symptoms of cases which ultimately becomes dangerous are often of the mildest character, and consequently sometimes altogether escape the observation of friends or attendants until the symptoms of actual croup give the alarm. Last autumn I saw, at the request of her medical attendant, a little girl, aged four years, whose indisposition had been so entirely overlooked by her parents, that they had brought her up from the country only a few hours before I saw her, and until the dyspnœa and stridulous breathing suddenly came on, and induced them to send for medical advice, were purposing to take her on to Gloucestershire. Yet not only were the

tonsils enlarged, with a patch of exudation, the size of a six-penny-piece, on each, but the fauces were generally injected, and the glands at the angles of the lower jaw swollen; showing beyond doubt that the disease must have been progressing for some days, even if we had not ascertained on inquiry that the child had had slight sore throat for nearly a week, which had not, however, prevented her from taking her food, and going about as usual. In fact, in that case, as well as in the case we are considering, it was evident to me, when first called for an opinion, that the disease had already reached a stage in which, unless speedily relieved, the patient could not survive many hours, and in which the only possible modes of relief were either by means of the spontaneous expulsion of the false membrane, which I felt assured was choking up the larynx or trachea, or else by means of the artificial admission of air to the lungs through an opening in the trachea. Now and then, though very rarely, I have known cases of this kind recover, when apparently desperate, in consequence of the spontaneous separation and expulsion of a mass of false membrane, bearing a more or less close resemblance in shape to some portion of the air-passages. I had some time since in my possession two such portions of false membrane, one of which formed an exact cast of the lower part of the trachea and the first portion of the bronchi, and the other an equally accurate cast of the larynx and upper part of the trachea. Both had been expelled by patients who were apparently almost moribund, and in both cases the expulsion was followed by recovery. I also some years ago found in the post-mortem examination of a little girl, whom I had seen once a few hours before death, a deposit of false membrane lining the whole of the larynx, and extending nearly an inch downwards into the trachea. This false membrane formed a complete tubular cast of the parts, but was almost entirely loose, being only attached at a few points to the mucous membrane which it overlaid. Thick and dense in the larynx, it became gradually thinner in the trachea, until it terminated in an extremely thin, soft, and scarcely coherent pellicle. The child had died very suddenly a few hours after I had seen it, and the immediate cause of death appeared to have been the partial detachment of the false membrane lining the larynx, which had choked the passage, and barred the admission of air. I was much mortified to find after death that possibly the operation of tracheotomy might have saved the child's life, and that the false membrane, being loose, might not improbably have

been seized with a pair of forceps, and drawn through the wound. I should add, however, that the spontaneous detachment and expulsion of the membraniform exudation, whether entire or in flakes, by no means insures the patient's recovery. The temporary relief is indeed for the most part very remarkable, and encourages the hope that the patient—who, although only a short time before apparently in the last struggle for life, may now be sleeping calmly—is on the high road to perfect convalescence; and in some instances this may really be the case. But such hopes are too often illusory, for the same tendency to repeated renewal of the false membrane by fresh exudation, which is frequently seen in diphtheritic affections of the fauces, exists also in the larynx; and, unless the local inflammation itself be upon the wane, it is too frequently found, a few hours after the expulsion of the former cast, that a new one occupies its place, and that the patient is in a worse state than before, being less able to cope with the fresh attacks of dyspnœa, and less likely to have strength to expel the obstruction. In fact, as long as the inflamed mucous membrane continues to pour out the liquid exudation which coagulates into the diphtheritic deposit, so long must the process of formation go on. It is by the persistence of this process that what was at first a mere semi transparent pellicle on the fauces becomes in the space of a few hours a dense membrane, and that the latter often increase in thickness from day to day, notwithstanding the waste going on at its free surface. And so therefore I regard it as probable, seeing the great rapidity with which the membrane re-forms upon the fauces when it has been artificially detached, that, unless the inflammatory affection be really on the decline, the processes of exudation and coagulation may go on for a time even more rapidly after the expulsion of the false membrane from the larynx than whilst it still covered the diseased surface.

To return, however, to the case of our little hospital patient. I was convinced, as already said, that the only possible chances for her life lay either in the almost immediate expulsion of the false membrane or in the speedy performance of tracheotomy. The former is, as I have explained, an event of rare occurrence, never to be counted on in any particular case, and the issue of which is exceedingly uncertain when it does happen; the latter alternative of operation has very frequently failed in such cases, and seemed especially likely to do so in a case in which the left lung was already partially consolidat-

ed, and the bronchial membrane probably inflamed. Nevertheless, considering that the child's suffering was urgent, that its death in a few hours seemed inevitable unless relief could be given by the operation, and that there were no severe constitutional symptoms to contraindicate tracheotomy, I spoke very decidedly in favor of its being performed. The event proved that in the circumstances the operation was not only justifiable, but right, for it was scarcely over when the child's breathing became comparatively tranquil, and she fell into a quiet sleep almost as soon as laid down in bed; and although it is true that in this case, as in too many others, life was not saved, it was certainly prolonged, the most urgent suffering was permanently relieved, and death came in a gentler and less distressing form than it would otherwise have done.

The immediate causes of death in this case were, doubtless, the collapse of lung and the plunging up of the trachea and primary bronchi with tenacious mucus, which the child was unable to get rid of by expectoration; for the lung-tissue, although collapsed, was not inflamed, and the bronchitis was scarcely in itself severe enough to have proved dangerous, except as a complication of the graver disease. In fact, however, I regard both the bronchitis and the collapse of lung as having resulted from the laryngeal affection; the former having probably been mainly occasioned by the gravitation downwards of the acrid fluid, from the larynx and trachea consequent upon the patient's inability to expectorate. The collapse of lung doubtless arose, as it so often does in the bronchitis of children, from the imperfect admission of air into the lungs during inspiration, partly in consequence of the obstruction in the larynx and trachea, partly from the choking up of the bronchial tubes with tenacious mucus. This latter, again, was in a great measure owing to the inability to cough it up, consequent on the want of power to take such a full inspiration as necessarily precedes the act of coughing. This was therefore eminently a case of diphtheria fatal in consequence of the local manifestations of the disease, and it was in the conviction that these constituted the real danger of the case that I entertained no doubt respecting the propriety of endeavoring to save the patient by tracheotomy.—*Lancet*, June 3, 1865.

EDITORIAL AND MISCELLANEOUS.

RUSH MEDICAL COLLEGE.

The Twenty-Third Annual Course of Lectures was opened on the 4th instant. The general Introductory Address was delivered by Prof. Blaney, who had been absent on duty in the army during the past three years. The Lecturer, after welcoming the large class of students present on the occasion, referred in feeling and appropriate terms to the happy conclusion of hostilities within our borders, and paid a merited tribute to the valor of the soldiers of the Union, and the efficiency of the Medical staff of the army. He then admonished those just commencing the study of Medicine, of the great labor necessary to acquire a knowledge of the principles of the profession—instancing the importance and extent of research necessary to master the individual branches, as Anatomy, Physiology, Pathology, Surgery, Practical Medicine, Therapeutics, &c., portions of which were strikingly beautiful and pertinent. The address, as a whole, was well conceived, and abounded in good advice to the young men of the class, and was admirably calculated to raise the respect for our noble profession in the minds of all who were fortunate enough to hear it.

The course opens with every prospect of being among the most successful and satisfactory which have latterly attended the history of the College.

Messrs. Editors Chicago Medical Journal: Surgeon Winch, in concluding his excellent paper on Chronic Diarrhœa in the August number of the JOURNAL, speaks of the use of Nux

Vomica in that disease. My preceptor, Dr. J. T. Boyd, of Indianapolis, used it very successfully in his practice. And I have myself, in a number of cases of returned soldiers, prescribed it with very great benefit.

The cases in which it seemed to be most especially indicated and in which I have seen most benefit follow its use, were those characterized by anæmia, loss of appetite, indigestion, and great debility. In some cases no other remedies were used—excepting, of course, the proper dietetic measures—and with well-marked success. Most of these cases had been previously treated in the army, from three to six months, and even longer. And as the continuation of astringents, opiates, and in some cases, purgatives, had utterly failed, I concluded it would be useless to persue that course longer. After taking the Nux Vomica for a short time—generally from two to three weeks—the appetite returns, digestion is more perfectly carried on, the patient gains strength, and the discharges gradually become more consistent and less frequent. The *rationale* of its cure I will not pretend to give—but merely to state that the experience I have had with it in a considerable number of cases, is very much in its favor, and would urge for it a trial. I have, in all cases, used the tincture. Will not some one give to the profession the benefit of a more extended experience?

DAVID R. JOHNSTON, M. D.

MUNCIE, IND., Sept. 7th, 1865.

We have received from the publishers the following works. Want of space prevents a notice in this number:

The Student's Book of Cutaneous Medicine and Diseases of the Skin. By Erasmus Wilson, F. R. S.

Lectures on Diseases of the Stomach. By William Brinton, M. D., F. R. S. Lea & Blanchard.

The Use of the Laryngoscope in Diseases of the Throat. By Morill Mackenzie, M. D. Lindsay & Blakiston.

Physician's Visiting List for 1866. Lindsay & Blakiston.